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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:	
DIETSCHE, FRANK, ET AL	:	GROUP: 1773
SERIAL NO: 10/519,841	:	
FILED: JANUARY 12, 2005	:	EXAMINER: KRUER, K.
FOR: RADIATION-CURABLE PAINT SYSTEMS HAVING A LOWER LAYER WITH LOW-TEMPERATURE ELASTICITY	:	

APPEAL BRIEF

COMMISSIONER FOR PATENTS
P. O. BOX 1450
ALEXANDRIA, VIRGINIA 22313-1450

SIR:

The following is an appeal to the Board of Appeals concerning the decision by the Examiner to finally reject the claims of the above-identified application.

REAL PARTY OF INTEREST

BASF SE is the real party of interest of the above-identifed application.

RELATED APPEALS AND INTERFERENCES

There are no related applications on appeal or in interference before the Board of Appeals and Interferences.

STATUS OF CLAIMS

Claims 1-9 and 16-25 are pending in the application. Claim 25 is withdrawn from consideration. Claims 1-9 and 16-24 are rejected.

STATUS OF AMENDMENTS

The response filed October 18, 2007 has been entered into the record in the context of an appeal to the Board of Appeals.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 1 is directed to a multicoat system on a substrate (A), which is comprised of a clear coat of at least one radiation-curable coating system (F), and, optionally, at least one coat (E), which is pigmented and/or provided with effect substances, and which is adjacent to and under coat (F). The coat is comprised of coating system (F) and optional coat (E), which constitutes a topcoat, and at least one elastic intercoat (D), which is located between the substrate (A) and the topcoat, and has a glass transition temperature (T_g) of -20°C or less (measured in the frequency range up to 1000 Hz). The substrate has an impact strength to DIN EN ISO 179/1fU at 23° C and 50 % humidity of at least 20 kJ/m^2, and the ratio (V) of the intercoat thickness (ZS) to the total thickness of the intercoat and the topcoat (DL), expressed as V = ZS/(ZS + DL), in the multicoat system, is at least 0.05 at a temperature of at least 25°C. Support for the multicoat system as claimed can be found at page 2, lines 14-19 and lines 43-44 and page 33, lines 18-30 and 41-44.

GROUNDS OF REJECTION

Whether Claims 1-9 and 16-24 stand properly rejected based on 35 USC 103 as obvious over Mack et al, U.S. Patent 6,500,883 in view of Otaki et al, U.S. Patent 6,482,489 and Downey, U.S. Patent 3,880,953 or Korpman 4,136,071.

Whether Claims 1-9 and 16-24 stand rejected based on 35 USC 103 as obvious over Onozawa et al, U.S. Patent 6,103,370 in view of Matsuoka, JP 0518671 in view of Downey, U.S. Patent 3,880,953 or Korpman 4,136,071.

Whether Claims 1-7, 9, 17-19 and 21-24 stand rejected based on 35 USC 103(a) as obvious over Bergh et al, U.S. Patent Publication, 2003/0104245 in view of Van Havenbergh et al, U.S. Patent 5,334,842.

ARGUMENT

Rejection of Claims 1-9 and 16-24, 35 USC 103, Mack et al, Otaki et al, Downey, Korpman

Claim 1

Appellants point out firstly that the field of technology of the present invention in not in any way related to the fields of technology of any of the four cited patents. Moreover, the fields of technology of the patents are substantially unrelated to each other with the possible exception of the Downey and Korpman patents. Thus, the present invention is directed to clear coat technology in which the several layer coating is applied to surfaces such as an engineering plastic, thereby finding utility in exterior coatings that are subject to daylight. Further, the coating is applied to the likes of buildings, traffic markers and the surfaces of vehicles and aircraft. The coating system of the invention is therefore subjected to significant forces of stress. The coating system of the invention is noted for its enhanced hardness, elasticity, abrasion resistance and chemical resistance. The present invention therefore relates to a coating of improved fracture-mechanical properties. On the other hand, Mack et al is directed to a surface modified filler, where the surface modifying agent is an organosilane, for the filling of a polyamide which is to be molded. Otake et al discloses a laminated hologram structure. Downey discloses a pressure sensitive adhesive which is based on an A-B-A block copolymer. Korpman discloses a pressure sensitive adhesive which is based on an

A-B-A or A-B block copolymer. Appellants therefore do not understand on what basis the references can be combined in view of the diversities of their disclosures, none of which pertain to clear coat technology.

Turning to Mack et al, the patent discloses the coating of powder particles or fibers of a filler material suchglass fibers, glass beads, wollastonite, mica or the like with an organosilane or organosilane containing agent. The filler is simply incorporated in a polyamide which is suitable for injection molding into the shapes of various objects such as housings for electrical devices and parts for automobiles such as wheel caps and fan housings and the like where structural and impact resistance are necessary physical properties. The patent nowhere teaches or suggests a clear coat system, and in particular that of the present invention in which at least one radiation-curable coating system (F) overlies an optional coat (E) which contains a pigment or is provided with an effect substance, the layer (E) overlying an elastic intercoat (D) layer.

The Otaki et al patent, as noted above, is directed to a field of technology that is entirely unrelated to that of Mack et al, and also is not related to clear coat formulations. Otaki et al is directed to hologram laminates that useful as hologram labels. The patent in particular, is basically directed to a hologram device in which a hologram layer is bonded to a substrate via a first pressure sensitive adhesive layer and then an overlying transparent protective layer is bonded to the hologram layer by a second pressure sensitive adhesive layer. From this description it is immediately apparent that the laminate construction of the hologram device of the patent is totally unlike the clear coat claimed in the present invention where no intervening bonding layers of pressure sensitive adhesives are employed, where a hologram layer is the central functional component of the device disclosed, and where the protective top coat provided does not suggest the present topcoat system where the outermost layer is formed of a radiation curable coating system (F) and an optional at least one coat (E)

that contains a pigment or effect substance under the layer (F), and under these at least one layer(s), an elastic intercoat (D) is positioned on a substrate surface. Suitable substrate materials not only include substances such as polyvinyl chloride, polyethylene, acrylic resin, polycarbonate and the like, but also such substrates as paper, rubbers, cloth and wood.

As to specific comments by the Examiner on page 3 of the final Action, Otaki et al does not provide any teaching of a UV curable urethane acrylate hardcoat layer at col. 5, lines 25+, but rather discloses such a hardcoat layer at column 20, lines 27-30. Here such a layer is optionally provided over the required topmost, transparent protective layer 108. Such a teaching is provided in the context of a laminated hologram and not a clear coat system.

The Examiner refers to a styrene block copolymer adhesive at column 52, lines 53+. However, this portion of the text is concerned only with examples pressure sensitive adhesives for the first pressure-sensitive adhesive layer. On the other hand, pressure sensitive adhesives are not employed in the present clear coat system.

The Examiner also states that *a substrate intervenes an adhesive layer and a hardcoat layer*. It is not clear to what the Examiner is making reference. It already has been stated that the present topcoating system does not employ pressure sensitive adhesive layers. Further, present Claim 2 describes a layer (C) that is selected from the materials described which is layered between the elastic intercoat (D) and substrate (A). On the other hand, although the hologram device of the patent requires a substrate, neither the reference in the hologram device disclosed nor the present topcoating system describes a substrate as intervening between a hardcoat and a pressure sensitive adhesive.

Finally, the Examiner states that *it would be obvious to one of skill in the art to apply the hologram taught by Otaki et al to the substrate taught in Mack et al*. However, Mack et al does not teach a substrate for holograms, but rather molded objects prepared from filler

containing polyamide. Clearly, the combined principal references do not suggest the present invention.

The Downey and Korpman patents are believed to be irrelevant to the present invention, because these patents disclose pressure sensitive adhesive formulations which are not employed in the topcoating system of the present invention. Downey discloses an A-B-A triblock copolymer, wherein A is a non-elastomeric polymer block and B is an elastomeric polymer block, that is mixed with a thermoplastic tackifying resin. Korpman discloses an adhesive formulation which is a combination of an A-B-A triblock copolymer and an A-B block copolymer that is mixed with a tackifying resin. The tackifying agents that are employed in the compositions of the references are essential in imparting pressure sensitive adhesive characteristics to the block copolymer thermoplastics of the references. Clearly, the disclosures of the two patents are irrelevant to the present invention where no pressure sensitive resin is employed.

Claims 3 and 4

None of the patents discussed above disclose a clear coating system as presently claimed. Therefore the second substrate materials of Claim 3 and the materials from which substrate (A) of Claim 1 can be selected in Claim 4 are not taught or suggested as suitable materials for a clear coat system.

Claims 5-7

Claims 5-7 are directed to aspects of the elastic intercoat layer (D) of the topcoat system which are the thickness of the layer and the polymer materials from which the elastic intercoat (D) is selected. On the other hand, since none of the cited references teach or

suggest a clear coat system, and certainly not one that has an elastic intercoat layer, the subject matter of Claims 5-7 is not suggested by the cited patents.

Claim 8

Since none of the cited patents discloses, or the patents in combination suggests a clear coat system as presently claimed, none could possibly suggest a third substrate within the meaning of the present invention for a clear coat system.

Claim 9

Since none of the cited patents discloses or suggests a clear coat system as presently claimed, the patents clearly do not show or suggest an elastic intercoat (D) that has a glass transition temperature of -20° C or less.

Claims 16-18

Because none of the cited patents discloses or suggests a clear coat system as presently claimed, the patents not only do not show or suggest a substrate upon which a clear top coating system is applied, it certainly does not show or suggest a second substrate in such a system and particularly where the substrate (A) and the second substrate are selected from the polymer materials of Claim 16.

Because the cited prior art patents do not show or suggest an elastic intercoat of any sort in a clear coat system, the prior art certainly does not suggest a second elastic intercoat layer that has the thickness specified in Claim 17. Moreover, the patents do not describe one of the materials of Claim 18 as having the function of an elastic intercoat layer material.

Claims 19-20

Claims 19 and 20 are clearly unobvious in view of the cited prior art, because none of the patents disclose a clear coat system that is applicable to a variety of substrate materials be they a substrate (A) or a third substrate as defined in Claim 8.

Claim 21

None of the cited patents discloses or suggests an elastic intercoat material that has a glass transition temperature of -60° C or less.

Claim 22

The Otake et al patent discloses a radiation (UV) curable urethane-acrylate as a hardcoat material. The hardcoat, as disclosed by the reference in column 20, is an optional layer material that overlies an essential outer transparent film of the laminated hologram structure, whereas in the present invention the outer protective layer (F) is not optional. Moreover, again, the disclosure of Otaki et al is not concerned with a clear coat system for a substrate, but rather only teaches a hardcoat material in the context of laminated holograms.

Claim 23

Since the prior art cited does not show or suggest a clear coat system of the several layers as set forth in the present claims, the patents do not teach a ratio (V) having a value of at least 0.3 at a temperature of -50° C, wherein the ratio is of the thickness of the intercoat layer to the total thickness of the intercoat layer and the topcoat.

Claim 24

The cited and applied prior art does not show or suggest a clear coat system which has an elastic intercoat layer and therefore does not teach an elastic intercoat layer that is comprised of a thermoplastic elastomer in the context of a system which simultaneously

employs a radiation curable urethane-acrylate as an essential topcoat layer of the clear coat system.

Rejection of Claims 1-9 and 16-24, 35 USC 103, Onozawa et al, JP-'671Otaki et al, Downey, Korpman

Claim 1

As previously stated on the record, Onozawa et al discloses what is termed a hard coat sheet which is preferably useful for application to window panes of a building or to a car window for the purposes of providing an anti-scattering (light) effect and a light (heat rays) shielding function. The hard coat sheet is very simply formed by coating a layer of a resin based composition on a base sheet that is usually formed of a plastic material such as polyethylene terephthalate, polycarbonate, polyethylene naphthalate, polypropylene or the like. The resin composition coated on the base sheet is comprised of 0.1 to 100 parts by wt of a radiation curable silicone resin in an amount ranging from 0.1 to 100 parts by wt per 100 parts by wt of a multi-functional acrylate. If desired, as disclosed at the bottom of column 3 of the patent, the "back" side of the base sheet can be provided with an adhesive layer that is formed from the likes of the adhesives described at column 4, lines 3-16. (The adhesive layer does not intervene between the surface of the sheet and the radiation curable silicone resin/acrylate layer.) This adhesive layer then allows one to apply the sheet to whatever substrate desired, such as a wall in a building or a vehicle. It is therefore abundantly clear that the reference nowhere describes the laminated structure of the present invention in which an elastic intercoat layer is applied to a surface of a substrate and then a coat of at least one radiation curable coating system (F) is applied over the elastic intercoat layer, with an optional pigmented coated layer intervening the coating layer (F) and the elastic intercoat layer.

In commenting about the hardcoat sheet of the reference, the Examiner states that *a window pane (which has the hardcoat sheet applied thereto) is then attached to another layer*. Appellants do not concur with this statement. Rather, once a hardcoat sheet is prepared, the hardcoat sheet can be applied to a surface of the likes of a window pane. Thereafter, the window pane would be placed into a receiving frame such as found in automobiles or within the horizontal and vertical support elements of a window. The hardcoat covered window pane is ***not*** attached to another layer.

The deficiencies of Onazawa et al are neither overcome nor improved by Matsuoka which merely discloses a polycarbonate sheet as a windshield. In an embodiment of the windshield plate of the reference, a windshield plate having a fog degree of 3 % or less and an impact strength of 60 kgf·cm/cm or more is obtained by bonding a thermoplastic resin film to the polycarbonate. It is accordingly very clear that the two references are not only directed to unrelated fields of transparent window or glazing technology. Moreover, neither of the references is even remotely related to the technology of a clear coat system of the present invention.

The Examiner states on page 4 of the Office Action that Matsuoka '671 *teaches a window pane made of a polycarbonate that has an impact strength of 60 kgf·cm/cm or more and that therefore impact strength is taught with sufficient specificity to read on the claimed invention*. However, none of the present claims recites an impact strength property for the claimed clear coat system, although some degree of impact resistance would be expected for the presently claimed applied clear coat system. Moreover, neither of the two references teaches or suggests, alone or in combination, a clear coat system where a substrate is coated with at least one elastic intercoat layer (D) and then a top coat of a radiation-curable system (F) is applied, with an optional intervening pigmented layer therebetween.

The Downey and Korpman patents, as discussed above, are believed to be irrelevant to the present invention, because these patents disclose pressure sensitive adhesive formulations which are not employed in the topcoating system of the present invention. Downey discloses an A-B-A triblock copolymer, wherein A is a non-elastomeric polymer block and B is an elastomeric polymer block, that is mixed with a thermoplastic tackifying resin. Korpman discloses an adhesive formulation which is a combination of an A-B-A triblock copolymer and an A-B block copolymer that is mixed with a tackifying resin. The tackifying agents that are employed in the compositions of the references are essential in imparting pressure sensitive adhesive characteristics to the block copolymer thermoplastics of the references.

It is also pointed out that Claim 1 requires the elastic intercoat (D) to have a glass transition temperature T_g of -20° C or less, whereas the adhesive of Downey is an elastomeric block copolymer A-B-A in which block A has a Tg of 25°C and the block B has a Tg of below about 10°C.

Claim 2

None of the cited references describes a layer (C) that is selected from the materials described which is layered between the elastic intercoat (D) and substrate (A). Simply stated neither the resin coated window pane of Onozawa et al nor the polycarbonate window pane of the '671 reference discloses or suggests the clear coat system of the present invention. Certainly, therefore, the references fail to disclose or suggest a layered clear coat system that in addition has at least one coat (C) that is selected from the group of materials shown, that is positioned between an intercoat layer and a substrate. Still further, in the event coat (C) is a second substrate layer, there is no teaching or suggestion that an elastic intercoat layer (D) is interposed between the substrate (A) and the second substrate layer.

Claims 3 and 4

Neither of the Onozawa et al nor '671 references, as discussed above, discloses a clear coating system as presently claimed. Therefore the second substrate materials of Claim 3 and the materials from which substrate (A) of Claim 1 can be selected in Claim 4 are not taught or suggested as suitable materials for a clear coat system.

Claims 5-7

Claims 5-7 are directed to aspects of the elastic intercoat layer (D) of the topcoat system which are the thickness of the layer and the polymer materials from which the elastic intercoat (D) is selected. On the other hand, since neither of the cited Onozawa et al or '671 references teaches or suggests a clear coat system, and certainly not one that has an elastic intercoat layer, the subject matter of Claims 5-7 is not suggested by the cited patents.

Claim 8

Since neither of the cited Onozawa et al nor '671 references alone or in combination suggests a clear coat system as presently claimed, neither document could possibly suggest a third substrate within the meaning of the present invention for a clear coat system.

Claim 9

Since neither of the cited Onozawa et al nor '671 references discloses or suggests a clear coat system as presently claimed, the patents clearly do not show or suggest an elastic intercoat (D) that has a glass transition temperature of -20° C or less.

Claims 16-18

Because neither of the cited Onozawa et al nor '671 references discloses or suggests a clear coat system as presently claimed, the patents not only do not show or suggest a substrate upon which a clear top coating system is applied, it certainly does not show or suggest a second substrate in such a system and particularly where the substrate (A) and the second substrate are selected from the polymer materials of Claim 16.

Because the cited Onozawa et al or '671 references do not show or suggest an elastic intercoat of any sort in a clear coat system, the prior art certainly does not suggest a second elastic intercoat layer that has the thickness specified in Claim 17. Moreover, the patents do not describe one of the materials of Claim 18 as having the function of an elastic intercoat layer material.

Claims 19-20

Claims 19 and 20 are clearly unobvious in view of the cited Onozawa et al or '671 documents, because neither of the documents discloses a clear coat system that is applicable to a variety of substrate materials be they a substrate (A) or a third substrate as defined in Claim 8.

Claims 21-22

Neither of the cited Onozawa et al or '671 documents discloses nor suggests an elastic intercoat material (D) that has a glass transition temperature of -60° C or less. Further, neither of the two references teaches or suggests a hard coat material, let alone a radiation (UV) curable urethane-acrylate.

Claim 23

Since the prior art cited does not show or suggest a clear coat system of the several layers as set forth in the present claims, the references do not teach a ratio (V) having a value of at least 0.3 at a temperature of -50° C, wherein the ratio is of the thickness of the intercoat layer to the total thickness of the intercoat layer and the topcoat.

Claim 24

The cited and applied prior art does not show or suggest a clear coat system which has an elastic intercoat layer and therefore does not teach an elastic intercoat layer that is comprised of a thermoplastic elastomer in the context of a system which simultaneously employs a radiation curable urethane-acrylate as an essential topcoat layer of the clear coat system.

Rejection of Claims 1-7, 9, 17-19 and 21-24, 35 USC 103, Bergh et al, Van Havenbergh et al

Claim 1

The Bergh et al '245 publication describes a basically two-layer radiation storage panel comprising a self-supporting or supported phosphor layer in which phosphor particles are dispersed in a polymeric binder, and, adjacent thereto, is a protective layer which contains a white pigment, normally titanium dioxide, having a refractive index greater than 1.6. For the preparation of the phosphor containing layer material, the polymeric materials disclosed in paragraph [0042] are employed as a binder. The active phosphor is a BaF-Br:Eu or CsBr:Eu material. The thermoplastic rubbery materials disclosed on page 4, second column of the publication constitute the binder component of the base self-supporting or supported layer which contains phosphor particles, and is not a separate layer of the laminated structure described in the publication. The rubbery material does not form the equivalent of the elastic layer of the present claims. From this description it is apparent that the reference does not

teach or suggest the multi-layer coating system of the present invention. It therefore and consequently does not teach or suggest the method of the present invention of applying an elastic intercoat layer to a substrate followed by a topcoat layer system.

The Examiner contends on page 5 of the final Action that the abstract of the Bergh et al teaches a three layer laminate as a radiation storage panel. It does not. The patent, as noted above, describes a two layer laminate of a self supporting or supported layer that is comprised of phosphor particles in a binder which is adjacent to a protective coating layer which, besides a binder, is comprised of a white pigment that has a refractive index of more than 1.6 and preferably further is comprised of a urethane acrylate. In fact, a urethane acrylate is the preferred binder of the protective coating (paragraphs [0017] and [0031]).

The Examiner is correct in stating that the patent in paragraph [0041] teaches a Kraton as a binder for the phosphor particles of the phosphor layer. But how does such a layer constitute a teaching of the present invention of the use of such a layer as an elastic intercoat between a substrate and an overlying (top) layer of a radiation curable coating system (F) of a clear coat coating system? To the contrary, all that the patent teaches is a rubbery layer that contains phosphor particles in adjacent contact with a protective coating layer as discussed above.

As to the Van Havenbergh et al patent, again, the patent pertains to the field of technology of radiographic screens, which is entirely different from the surface protective clear coat system of the present invention where applied clear coat is able to protect substrates that are subject to exterior environmental stress. The Examiner uses the Van Havenbergh et al patent for its disclosure of support materials such as cardboard, a metal or a hydrophobic resin. While such support materials function well as supports for the radiographic screen of the reference and may function as support materials upon which the present clear coat system can be applied, nevertheless, the radiographic screen of the patent

is not a clear coat system of a radiation curable coating material, optionally with a pigment layer, and an under-lying elastic intercoat.

Claims 1-7

Because the two cited Bergh et al and Van Havenbergh et al patents relate only to the technology of radiographic screens, they do not disclose or suggest a clear coating system such as that of the present invention which is based on a top coating of radiation curable material and an underlying layer of an elastic intercoat layer, between which is optionally a pigment containing coating. Accordingly, with respect to present Claim 2, there is no teaching or suggestion of a more highly laminated structure of a layer (C) between the elastic intercoat layer (D) and substrate of present Claim 1, and certainly no teaching or suggestion, in the event coat (C) is a second substrate, of interposing an additional elastic intercoat (D) layer between substrate (A) and the second substrate.

Claims 3 and 4 are directed to various types of substrate materials which can be protected by the at least two layer topcoat system of the present invention. While the Van Havenbergh et al patent discloses a variety of substrate materials which can be used as substrates for the construction of the radiographic screens of the reference, nevertheless, these substrate materials are of secondary importance to the fact that the combination of the two cited patents do not suggest the presently claimed clear coat system or, for that matter, any clear coat technology.

As to Claims 5-7, these claims are directed to aspects of the elastic intercoat layer of the present claims. Since the two cited patents do not disclose clear coating technology, there is no teaching or suggestion in the applied prior art of an underlying elastic intercoat layer positioned between a substrate and a radiation curable resin (F).

Claim 9

Claim 9 is directed to a specific method of producing the multicoat system of Claim 1 by applying a layer of elastic intercoat material (D) between a substrate (A) and the radiation curable coating system (F). No such method is taught or suggested by either Bergh et al or Van Havenbergh et al.

Claims 17-18

The comments presented above with respect to Claims 5 and 6 apply equally as well to Claims 17 and 18.

Claim 19

The subject matter of present Claim 19, besides not being taught, by either patent, is of secondary interest. Patentability of the invention does not rest upon the subject matter of this claim.

Claims 21-22

Because neither of the cited Bergh et al nor Van Havenbergh et al patents discloses a clear coat system comprised of the two main layer materials of the present claims, neither patent teaches or suggests an elastic intercoat material (D) that has a glass transition temperature of -60° C or less. Further, neither of the two references teaches nor suggests a hard coat material, let alone a radiation (UV) curable acrylate such as a urethane-acrylate.

Claim 23

Because the cited Bergh et al and Van Havenbergh et al patents do not show or suggest a clear coat system of the several layers as set forth in the present claims, the patents

do not teach a ratio (V) having a value of at least 0.3 at a temperature of -50° C, wherein the ratio is of the thickness of the intercoat layer to the total thickness of the intercoat layer and the topcoat.

Claim 24

The cited Bergh et al and Van Havenbergh et al patents do not show or suggest a clear coat system which has an elastic intercoat layer and therefore does not teach an elastic intercoat layer that is comprised of a thermoplastic elastomer in the context of a system which simultaneously employs a radiation curable urethane-(meth)acrylate as an essential topcoat layer of the clear coat system.

Response to Arguments

The Examiner states on page 6 of the Action that Mack et al *was never relied upon to teach the claimed multi-coat system but that* Otaki et al *was relied upon to teach a multi-coat system that could be applied to the substrate of* Mack et al. The fact that the Examiner did not rely upon the teachings of a multi-coat system is beside the point that the patent is irrelevant to the invention as claimed. What Mack et al teaches is a *molding* polyamide based composition that can be molded into objects of various shapes such as housings for electrical devices and parts for motor vehicles such as wheel caps and fan housings. Nowhere shown or suggested is a polyamide substrate that serves as a substrate for coating with a several layered clear coat system! There is nothing in the reference which indicates a need for protecting a molded object with a protective clear coat material.

As to Otaki et al, appellants submit that the reference is not at all related to a clear coat system for the protection of a substrate. As discussed in detail above, the device of the patent is centered about a *hologram* layer that has a protective, transparent outer film on it, that must be bonded to the hologram layer by a transparent pressure sensitive adhesive layer.

This is not the clear coat system of the present invention. How then would one of skill in the art be led by to Otaki et al formulate a several layered clear coat system as presently claimed, which is not shown or suggested by the reference and deposit or layer the several coats on a substrate that is in no way described as needing such protection?

The Examiner states at the bottom of page 6 that the *proposed combination (Mack et al* and Otaki et al*) renders the obvious each and every claim limitation.* Appellants query how each and every limitation of the present claims is shown? Mack et al does not show or suggest a molded polyamide object having or requiring a need of having any sort of protective covering. Otaki et al, in a field of technology unrelated to molding technology, only describes the adhesion of a transparent, protective film to a hologram layer by an adhesive. Accordingly, how does the cited combination render each and every limitation of the present claims obvious where there is an expressed need of protecting the surface of a substrate with a radiation curable topcoat coating system layer and an under-lying elastic intercoat layer which is not a pressure sensitive adhesive? The fact that the elastic intercoat layer is clearly distinct from a pressure sensitive adhesive is very apparent from the discussion of the intercoat layer on page 33 of the specification where it is stated that for a given applied coating system, the fracture-mechanical characteristics are determined by the ratio V of the intercoat thickness to the total thickness of the intercoat plus the thickness of the topcoat. The disclosure further states that the lower the temperatures to which the systems are subject and the higher the deformation rates, the greater the value of V which must be chosen so that fracture does not occur under mechanical stress. A pressure sensitive adhesive, on the other hand, exhibits no such property, and in fact need only have one essential property which is two bind two surfaces together when pressure is applied to the surfaces. Accordingly, the adhesive taught by Bergh et al does **not read on** the presently claimed elastic intercoat. In fact, it is clear that at a minimum the discussion on page 33 of the present

text renders irrelevant all of the references which teach pressure sensitive adhesives or their use in preparing a laminate, since the elastic intercoat layer (D) of the present system is not a PSA, but rather must possess certain mechanical/physical properties, which not one cited prior art reference which discloses PSAs, discloses or teaches.

In view of the comments above, appellants continue to believe that the decision by the Examiner to continue the rejection of the present claims is erroneous and should be REVERSED.

Respectfully submitted,

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CLAIMS APPENDIX

Claim 1. A multicoat system, on a substrate (A), comprising:

a clear coat of at least one radiation-curable coating system (F), and, optionally, at least one coat (E), which is pigmented and/or provided with effect substances, and which is adjacent to and under coat (F), said coat comprised of said coating system (F) and optional coat (E) constituting a topcoat, and at least one elastic intercoat (D), which is located between the substrate (A) and the topcoat, and has a glass transition temperature (T_g) of -20°C or less (measured in the frequency range up to 1000 Hz), wherein the substrate has an impact strength to DIN EN ISO 179/1fU at 23° C and 50 % humidity of at least 20 kJ/m^2, and the ratio (V) of the intercoat thickness (ZS) to the total thickness of the intercoat and the topcoat (DL), expressed as V = ZS/(ZS + DL), in the multicoat system, is at least 0.05 at a temperature of at least 25°C.

Claim 2 . The multicoat system as claimed in claim 1, additionally comprising, between elastic intercoat (D) and substrate (A)

(C) at least one coat selected from the group consisting of primer, basecoat, undercoat, coat pigmented or provided with effect substances, and a second substrate, and

(B) in the event coat (C) is a second substrate layer, at least one elastic intercoat (D) layer is interposed between substrate (A) and the second substrate layer.

Claim 3. The multicoat system as claimed in claim 2, wherein said substrate (A) and said second substrate are selected from the group consisting of paper, plastics, and metals.

Claim 4. The multicoat system as claimed in claim 1, wherein the substrate (A) is selected from the group consisting of PP (polypropylene), SAN (styrene-acrylonitrile copolymers), PC, PMMA, PBT, PA, ASA (acrylonitrile-styrene-acrylate copolymers), ABS (acrylonitrile-butadiene-styrene-copolymers) and their physical mixtures (blends).

Claim 5. The multicoat system as claimed in claim 1, wherein the thickness of the elastic intercoat (D) is from 0.5 to 500 μm.

Claim 6. The multicoat system as claimed in claim 1, wherein at least one compound in the elastic intercoat (D) is selected from the group consisting of thermoplastic elastomers, polyacrylates, and poly-*iso*-butenes.

Claim 7. The multicoat system as claimed in claim 6, wherein at least one compound in the elastic intercoat (D) is selected from the group consisting of styrene-butadiene-styrene (SBS), styrene-isoprene-styrene (SIS), styrene-ethylene/butylene-styrene (SEBS) and styrene-ethylene/propylene-styrene (SEPS) block polymers.

Claim 8. A third substrate coated with a multicoat system as claimed in claim 1.

Claim 9. A method of producing the multicomponent system as claimed in claim 1, which comprises applying, between the substrate (A) and said coat of at least one radiation-curable coating system (F), said an elastic intercoat (D) having a glass transition temperature (T_g) of -20°C or less.

Claim 16. The multicoat system as claimed in claim 2, wherein said substrate and said second substrate are selected from the group consisting of PP (polypropylene), SAN (styrene-acrylonitrile copolymers), PC, PMMA, PBT, PA, ASA (acrylonitrile-styrene-acrylate copolymers), ABS (acrylonitrile-butadiene-styrene-copolymers) and their physical mixtures (blends).

Claim 17. The multicoat system as claimed in claim 2, wherein the thickness of the elastic intercoat (D) is from 0.5 to 500 μm.

Claim 18. The multicoat system as claimed in claim 2, wherein at least one compound in the elastic intercoat (D) is selected from the group consisting of thermoplastic elastomers, polyacrylates, and poly-*iso*-butenes.

Claim 19. The method of claim 9, wherein the substrate (A) comprises an interior surface or an exterior surface of a structure.

Claim 20. The third substrate as claimed in claim 8, which is a building component, a vehicle component or an aircraft component.

Claim 21. The multicoat system as claimed in claim 1, wherein elastic intercoat (D) has a glass transition temperature (T_g) of -60° C or less (measured in the frequency range up to 1000 Hz).

Claim 22. The multicoat system as claimed in claim 1, wherein radiation-curable coating system (F) comprises at least one polymer selected from the group consisting of urethane (meth)acrylates, epoxy acrylates, polyether acrylates, and polyester acrylates.

Claim 23. The multicoat system as claimed in claim 1, wherein ratio (V) is at least 0.3 at a temperature of -50°C.

Claim 24. The multicoat system as claimed in claim 1, wherein at least one compound in the elastic intercoat (D) is a thermoplastic elastomer, and wherein at least one compound in the at least one radiation-curable coating system (F) is a urethane (meth)acrylate.

EVIDENCE APPENDIX

An appendix containing copies of any evidence submitted pursuant to paragraphs 1.130, 1.131, or 1.132 of this title or any other evidence considered by the Examiner has not been submitted into the record and is therefore not mentioned in this appendix.

RELATED PROCEEDINGS APPENDIX

No decision has been rendered by a court or the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of this section.